



BRA series asphalt rejuvenating agent

BRA series asphalt rejuvenating agent is a kind of asphalt pavement rejuvenating material. It mainly improves the performance of aged asphalt by fully dissolving and dispersing the asphaltene in aged asphalt and adjusting the proportion of each component of aged asphalt. It also improves the road performance of the recycled mixture by introducing special polymer substances with certain enhancement effects. It is suitable for factory-mixed hot rejuvenation and on-site hot rejuvenation of asphalt pavements of various grades of highways, municipal roads and airport runways. It can greatly improve the utilization rate of old materials when used for factory-mixed hot rejuvenation.

Physical and chemical indicators of BRA series products

Test items	Performance indicators		
	BRA-30	BRA-25	BRA-20
Viscosity at 60°C, cSt	51~180	900~4600	37600~60000
Solid content, %, ≤	30	25	20
Aromatic content, %, >	60	70	75
Flash point, °C, >	220		
Viscosity ratio before and after film oven test, ≤	1.2		
Mass loss before and after film oven test, %, ≤	0.2		
Density at 15°C, g/cm ³	0.95~1.1		

Performance characteristics and effects

Good rejuvenation effect: The product has strong diffusion and penetration capabilities, can penetrate into the interior of aged asphalt to dissolve and decompose asphaltene. The product is rich in aromatic components and can effectively supplement the missing components in aged asphalt. LBS-1 and LBS-2 can restore the penetration and softening point of aged matrix asphalt to the original asphalt level, and the low-temperature ductility can be restored by more than 70%. BRA-30 can restore the low-temperature ductility of aged modified asphalt to more than 90%.

Excellent enhancement effect: After adding the rejuvenation agent, the water damage resistance and low-temperature cracking resistance of the regenerated asphalt mixture can be significantly enhanced, see Table below.

Road performance of recycled asphalt mixture (BRA content is 5%)

Road performance	Virgin sample	BRA-30	BRA-25	BRA-20
Dynamic stability (times/)	2585	2500	3297	4219
Water immersion and scattering loss rate (%)	26.1	3.4	2.1	2.2
Freeze-thaw splitting strength ratio (%)	68.5	83.5	88.7	92.3
Maximum bending tensile strain ($\times 10^{-6}$)	1816	2342	2257	2545

Strong aging resistance: After aging in a film oven, the viscosity and quality of the rejuvenation agent hardly change, and it has excellent aging resistance.

High construction safety: The flash point is greater than 220°C, which can ensure construction safety.

Usage and precautions

Dosage: The recommended dosage of BRA-30 is 2% to 5%, and the recommended dosage of BRA-25 and BRA-20 is 4% to 10% of the mass of the old asphalt. The specific dosage should be determined by testing according to the degree of asphalt aging.

Usage: In order to improve the dispersion and penetration effect of the rejuvenation agent, the rejuvenation agent should be heated to a certain temperature when used (BRA-30 can be used at room temperature, BRA-25 is heated to 70-80°C, and BRA-20 is heated to 120-135°C). During on-site hot rejuvenation construction, the rejuvenation agent can be directly sprayed evenly on the old road. During hot rejuvenation in the factory, the old material is first heated to the set temperature, and then the rejuvenation agent is evenly sprayed on the heated old material at the old material outlet, and the old material is evenly mixed with the new mineral material and new asphalt in the mixing tank.

◆ **Note:** The rejuvenation agent can be used together with the anti-stripping agent or other asphalt additives, but it is recommended to conduct experimental research first.

◆ **Storage:** The product has a shelf life of 2 years and should be stored in a dry and cool place. It should be sealed and strictly prohibited from contacting water.

Product packaging

It is packaged in barrels, 200kg per barrel, and can also be adjusted according to user needs. It is very convenient for loading and unloading and transportation.

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